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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/651,130
Filing Date: August 30, 2000
Appellant(s): MALMGREN ET AL.

Travis D. Boone
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 8/31/2005 appealing from the Office action mailed 4/8/2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

US 6,261,679	Chen et al.	7-2001

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1, 2, 4-15 and 20 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Chen et al. (US 6261679).

Chen's invention is directed to an open-cell fibrous absorbent structure for use as absorbent articles such as feminine care pads, diapers, incontinence articles, bed pads and bandages for the intake, distribution, and retention of human body fluids (column 2, lines 5-49). Hydrophilic fibers can be any known cellulosic fibers, such as fibers derived from chitin, chitosan, starch, or other polysaccharides can also be used (column 7, lines 35-55). The polymeric binder material in the structuring composition may be rendered foamable at least in part due to the presence of foaming agents such as a surfactant by mechanical agitation (column 11, line 47 to column 12, line 5). Suitable swellable binder materials include polysaccharides such as carboxymethyl celluloses, etc., and synthetic polypeptides such as polyaspartic acid, etc. (column 12, line 31-45).

For claims 1, 2-6, 8 and 9, Chen is silent about a distribution of pore sizes between 0 and 3 μm in the absorbent structure and its the absorption rate, liquid distribution capacity, and liquid storage capacity under certain specific testing conditions. However, Chen does teach that the cells defined by the foamable binder material can be about 3 mm or less; specifically about 1 mm or less, more specifically about 0.3 mm or less, still more specifically about 0.1 mm or less, and most specifically from about 0.02 mm to about 0.2 mm (column 42, lines 33-38), which reads on the pore size (a distribution of pore sizes between 0 and 3 μm) as claimed. Further, Chen also expressly teaches essentially the same process of making the absorbent structure by a) mixing fibers and binder resins (column 11, lines 47-55; and column 21, lie 43 to column

22, line 25), b) foaming by gas injection or mechanical agitation (column 16, lines 10-24), c) optionally incorporating a crosslinking agent (column 29, line 20 to column 31, line 34), d) molding foamed mixture (column 26, lines 13-23), and e) freeze drying (column 17, line 66 to column 18, line 39) as the instant invention (see specification, pages 9 and 10). As such, it is the Examiner's position that, in the absence of evidence to the contrary, since Chen teaches substantially the same subject matter (an absorbent structure), made of the same composition (a mixture of the same hydrophilic fiber and binder materials, as set forth above), and also by the same process, a suitable pore size in the absorbent structure and its absorbent properties (absorption rate, liquid distribution capacity, and liquid storage capacity) are either anticipated by Chen, or are obviously provided by practicing the invention of the prior art. It should be noted that where the claimed and prior art products are shown to be identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a *prima facie* case of either anticipation or obviousness has been established. See MPEP § 2112.01.

For claim 7, Chen teaches that the absorbent structure may be used as diapers, incontinence articles, etc., as set forth above, which are inherently shaped to fit a wearer's three-dimensional body anatomy.

For claims 13 and 14, the Examiner notes that Chen's teaching of the cells defined by the foamable binder material being about 3 mm or less; specifically about 1 mm or less, more specifically about 0.3 mm or less, still more specifically about 0.1 mm

or less, as set forth above, read on both distributions of pore sizes of instant inventions as claimed.

For claims 10-12 and 20, the Examiner notes that since the specification merely defines the terms "gel liquid" and "capillary liquid" as "Gel liquid refers to liquid held in pores smaller than 3 μm and capillary liquid refers to loosely bound liquid in pores larger than 3 μm and up to 500 μm" (specification, page 5, second paragraph from the bottom), they merely appear to be liquids of the same composition being absorbed in pores of different ranges of sizes. A such, since Chen does teach substantially the same subject matter of the same structure and composition, including desirable pore sizes as claimed, as set forth above, it is the Examiner's position that, in the absence of evidence to the contrary, the ability of "gel liquid" storage also appears to be either inherent, or obviously provided by practicing the prior art, and these claims are also rejected under the same reasoning as set forth above. Further, it should be noted that "gel liquid" storage appears to be a latent property of Chen's invention, and mere recognition of latent properties in the prior art does not render nonobvious an otherwise known invention. MPEP § 2145.II.

(10) Response to Argument

With respect to Appellants' argument "A disclosure of pore sizes of 3000 μm or less does not teach one skilled in the art a pore size between 0 and 3 μm. The simple inclusion of "or less" does not provide a disclosure of each and every pore size under 3000 μm all the way to zero. Specifically, when read as a whole, it is clear to one skilled in the art that *Chen et al.* does not contemplate a pore size less than 20 μm. This is

evidenced at least by the description cited ... from Column 42, lines 31-38, and because there is no other discussion of a pore size smaller than 20 μm. Chen et al. is deficient of a teaching of a pore size less than 20 μm" (Appeal Brief, pages 4-5, bridging paragraph), the Examiner asserts that while Chen is silent about a distribution of pore size between 0 and 3 μm, Chen does expressly teach that progressively smaller pores are desirable. Given this proclivity towards smaller and smaller pore sizes in combination with the fact that Chen teaches substantially the same subject matter (an absorbent structure), made of the same composition (a mixture of the same hydrophilic fiber and binder materials, as set forth above), and also by the same process, it is expected that a suitable range of smaller pore sizes in the absorbent structure and its absorbent properties (absorption rate, liquid distribution capacity, and liquid storage capacity) are either anticipated by Chen, or are obviously provided by practicing the invention of the prior art. In particular, the Examiner notes that the end point of 0 μm of instantly claimed limitation *inherently* reads on the *un-voided portion* of Chen's swellable foamed binder as claimed, such as the portion which forms the swellable cell walls. Further, it should also be noted Chen's disclosure of "most specifically from about 0.02 mm to about 0.2 mm" is clearly directed to a preferable or most populous range of pore sizes among all the pores formed, nowhere does Chen state that such a range is limiting. Appellants' argument is not found convincing for these reasons and especially in the absence of any criticality being expressed for the claimed range.

With respect to Appellants' argument "with a pore size distribution between 0 and 3 μm, the presently claimed absorbent material is able to store gel liquid. *Chen et al.*

does not recognize or suggest gel liquid storage or any such manner storage. Instead, with regard to foam absorption, *Chen et al.* is focused on capillary absorption" (Appeal Brief, page 5, second full paragraph), the Examiner repeats that since the specification merely defines "gel liquid" and "capillary liquid" as liquids of the same composition being absorbed in pores of different ranges of sizes, the Office fails to recognize any material difference between the two and hold that any difference is merely semantics, not chemistry. In other words, while Chen is silent about "gel liquid" storage, since Chen does teach substantially the same subject matter of the same structure and composition, including desirable pore sizes as claimed, as set forth above, it is the Examiner's position that the ability of "gel liquid" storage appears to be inherent. It should be noted that mere recognition of undocumented properties in the prior art does not render nonobvious an otherwise known invention. MPEP § 2145.II.

With respect to Appellants' argument "the present claims not only define that pores smaller than 3 μm are present in the foam, but it is also defined that there is a certain minimum amount of the pores that have a cell diameter of 3 μm or less. This is because the present claims recite a liquid storage capacity of at least 9% measured through centrifuge retention capacity. Centrifuge retention capacity is a measure of the relative amount of absorbed liquid (measured by free swell capacity) that is held firmly in the foam structure in pores of a size up to 3 μm and is not released upon centrifugation" (Appeal Brief, page 6, first full paragraph) gas been carefully considered, but is not persuasive, the examiner repeats that since Chen does expressly teach that progressively smaller pores are desirable, and Chen teaches substantially the same

subject matter (an absorbent structure), made of the same composition (a mixture of the same hydrophilic fiber and binder materials, as set forth above), and also by the same process, a suitable range of smaller pore sizes in the absorbent structure and its corresponding "gel liquid" storage capacity are either anticipated by Chen, or are obviously provided by practicing the invention of the prior art.

Referring to the Declaration of Kent Malmgren, Appellants' argument "the claimed range compared with the range disclosed in the prior art shows a "marked improvement", so as to be a difference in kind, rather than one of degree. The "marked improvement" is the capability to store gel liquid, a capability which is absent from prior art ranges. Therefore the claimed range of pore sizes between 0 and 3 μm is a critical range and no case of prima facie obviousness exists" (Appeal Brief, pages 7-8, bridging paragraph) has been carefully considered, but is not persuasive. First, the Examiner notes that nowhere in the Declaration of Malmgren has a factual support of "marked improvement" been provided. Further, it is not clear if "marked improvement", if it exists, is sufficient to distinguish over the language of the claims. Absent an actual comparison, the Declaration is at best inconclusive of non-obviousness. Second, in the Declaration, point 5, Malmgren appears to have confused about the exact definition of "gel liquid". In one sentence, Malmgren states that "gel liquid refers to liquid held in pores smaller than 3 μm and capillary liquid refers to loosely bound liquid in pores larger than 3 μm and up to 500 μm", which is commensurate with the specification (see specification, page 5, second paragraph from the bottom). In another sentence, Malmgren states that "The liquid storage capacity of the foam defined in the claims may

be measured by centrifuge retention capacity (CRC), which is a measure of the capacity of the foam to firmly bind gel liquid in its solid phase by swelling the cell walls. *Specification, page 2, page 8.*" The Examiner notes that the definition provided on page 2 is disclosed in the section of "Background of the Invention", and it is clearly incommensurate with the definition disclosed in the section of "Description of Embodiments" at page 5. Page 8 merely described how CRC is measured. Since the definition in the section of "Description of Embodiments" at page 5 is relied upon, the definition at page 2 for prior art is not considered. Third, even if the definition at page 2 is considered, the Examiner would like to point out that Chen does teach the use of swellable binder material, and it would have been obvious to one of ordinary skill in the art to incorporate suitable amount of swellable binder material in the absorbent structure, motivated by the desire to obtain an improved absorbent material. Lastly, while Mr. Malmgren may be an expert in the art, the statements made are clearly only that based on opinion and not from a disinterested part. Therefore, it is not seen that the Declaration deserves persuasive weight.

With respect to Appellants' argument "the disclosure of *Chen et al.*, specifically the "less than" language ... does not result in anticipation of the claimed invention because the claimed range of pore sizes between 0 and 3 μm is not disclosed with sufficient specificity" (Appeal Brief, page 8, first full paragraph), the Examiner repeats that the end point of 0 μm of instantly claimed limitation *inherently* reads on the *un-voided portion* of Chen's swellable foamed binder as claimed, such as the portion which forms the swellable cell walls. Further, the Examiner respectfully reminds Appellants

that the specified range of "pore sizes between 0 and 3 μm" in a "comprising" clause fails to exclude the express teaching of "the cells defined by the foamable binder material can be about 3 mm or less; specifically about 1 mm or less, more specifically about 0.3 mm or less, still more specifically about 0.1 mm or less" by Chen, as set forth above. In particular, "0 μm" reads on the cell walls of the foamed binder materials.

Finally, with respect to Appellants' argument "There is nothing in *Chen et al.* that would have motivated persons skilled in the art to modify the discussed pore sizes of *Chen et al.* in a manner to arrive at the presently claimed range" (Appeal Brief, page 9, third full paragraph), the Examiner repeats that Chen does expressly teach that progressively smaller pores are desirable, and concludes that even if the disclosure were found to lack anticipation, this suggestion of smaller and smaller pore sizes clearly would lead one of skill in the art to minimize cell size as such, in combination with good void volume increases internal surface area and improve absorption.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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